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ABSTRACT

This document contains three papers from a symposium on organizational culture and climate that was conducted as part of a conference on human resource development (HRD). "A Comparative Profile of Workgroup Climate in Different Organizational Settings" (Allan H. Church) reports on a comparative analysis of climate data on more than 5,000 groups (representing more than 23,000 team members) that were collected during a 9-year period from 10 different databases and that revealed significant effects with respect to rater (manager versus group member) and industry. "The Relationship between Organisational Commitment and Organisational Climate" (Adela J. McMurray, Don Scott, R. Wayne Pace) reports on a study of 1,413 white and blue collar employees from 42 different countries of origin (response rate, 97.8%) that showed a significant correlation (.66) between organizational commitment and organizational climate. "Action Learning as a Vehicle for Organizational Culture Change" (Susan R. Meyer) reports on an examination of an ongoing 2-year action learning program indicating that managers who participate in the program recognize the need to adopt systems thinking and change their managerial practices in order to break down organizational norms against open, cross-divisional communication and engage in more innovation and problem solving. Two papers contain reference sections. (MN)

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Symposium 24

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A Comparative Profile of Workgroup Climate in Different Organizational Settings

Allan H. Church
W. Warner Burke Associates Inc.

Research has shown that work climate plays a central role in the effective functioning of a group or team. The following study provides a comparative analysis of climate data collected on over 5,000 groups (representing over 23,000 team members) during a 9 year period from 10 different databases. Findings revealed significant effects with respect to rater (manager vs. group member) and industry. Implications for understanding climate and its impact in various organizational settings are discussed.

Keywords: Climate, Managerial Behavior, Workgroups

With the rising popularity of teams, task forces, and cross functional groups as a method for defining jobs and processes in organizations today, it is perhaps no surprise that issues associated with the creation and maintenance of high performing workgroups is also of significant concern for HRD, OD and I/O practitioners and researchers (e.g., Church, 1996; Cohen, 1993; Guzzo, Salas & Associates, 1995; Katzenbach & Smith, 1993; Manz & Sims, 1995; Wellins, Byham, & Wilson, 1991). Teams and groups have become an integral part of many organizational initiatives from reengineering to total quality management to organizational learning efforts (e.g., Hammer & Champy, 1993; Sexton, 1994; Nirenberg, 1993) and, as such, represent what many consider to be the primary means for achieving success. Moreover, given the increasing level of complexity of work and the interdependencies inherent in a global economy, many authors (e.g., Galbraith, Lawler, & Associates, 1993; Howard, 1995; Katzenbach & Smith, 1993) predict that working with others in groups will play an even more important and significant role in the future of organizational life. Even the term 'virtual team" has entered the vernacular and soon may be an area in need of an OD or HRD related specialization. Clearly, the notion of the independent worker acting alone within a small sphere of influence is a thing of the past.

In general there are a number of important factors that contribute to successful team related efforts. At the broadest level, team basics include a need for accountability, appropriate levels of work and interpersonal skills, and commitment and shared purpose on the part of individual members (Katzenbach & Smith, 1993). Although these elements all represent different aspects of team functioning and can be difficult to assess, one construct that provides a good degree of overlap with these basics is the nature of the day-to-day climate as experienced by members in the workgroup. Defined by Burke and Litwin (1992) as 'the collective current impressions, expectations, and feelings that members of local work units have that, in turn, affect their relations with their boss, with one another, and with other units" (p. 532), perceptions of climate have been linked in prior studies to employee satisfaction, effective management practices, transformational leadership styles, team spirit, and workgroup performance (Church, 1995; Daniel, 1985; Friedlander & Margulies, 1969; Litwin, Humphrey, & Wilson, 1978; Litwin & Stringer, 1968; Schneider, 1980; Van Eron & Burke, 1992). In many ways, the state of a workgroup or team climate is a strong indicator of its current performance and even future potential. Aside from the obvious linkages with team functioning, however, prior research and theory (Litwin et al., 1978; Van Eron & Burke, 1992) have indicated that the notion of climate is in fact multifaceted and can be best represented by six interdependent aspects or dimensions. Although the names often differ, in general these six dimensions include clarity, recognition, standards, participation, intragroup relations, and intergroup relations. Each of these are described briefly below.

The first aspect of climate is *clarity*. The issues here include whether or not team members are clear about and understand their own and others' roles and responsibilities, and the way in which work has been organized. Operating procedures and goals are also of concern. Clearly, if individuals do not know what they are supposed to do and how it fits into the overall group objective, the team cannot be very effective.

Recognition focuses on the extent to which group members appreciate, acknowledge and provide recognition to each other about their contributions. While many people concern themselves with how often management formally and informally rewards direct reports, the recognition aspect of climate really reflects the member-to-

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member perspective. In general, the more individuals directly express their appreciation for each other the greater the commitment to the team outcome.

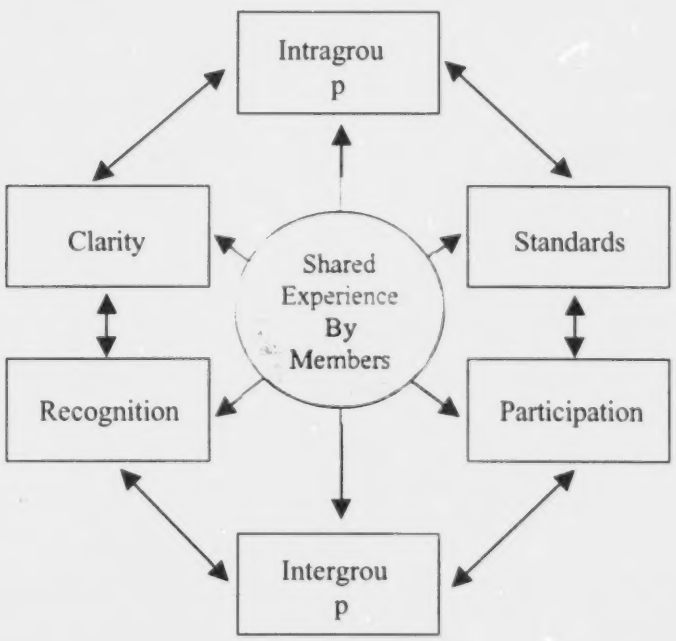
Even if people are comfortable patting each other on the back, if the *standards* of the group are too low, unchallenging, or uninspiring individuals are not likely to perform to the best of their abilities which, in turn, will also affect group performance. Aside from its direct link to performance, the notion of standards is equally important for enhancing team member motivation, commitment and developmental opportunities as well.

Participation is also related to the process of motivating and involving team members and building commitment to the group effort. The more individuals can influence the group goals and direction, and the more members solicit ideas and opinions from each other, the stronger the climate and the solidarity of the group in general.

As might be expected, *intragroup* relations at the top of the figure represents the sum of how individual team members interact with each other. Clear indicators here are such things as members demonstrating trust for one another, the existence of friendly and helpful interpersonal relationships, and the extent to which individuals stick up for other team members in times of need.

The final aspect of an effective climate is the nature of the *intergroup* relations. These represent how group members interact and resolve conflicts with those individuals from other groups in an organization (or function). While one might question the relevance of this externally directed component, as anyone who has worked with large scale organizational change efforts knows the impact of between group relations can make or break a entire intervention or improvement initiative. Although some degree of competitiveness can be motivating, too much negative energy between different teams and groups can lead to unintended performance problems and potentially new team smokestacks as well. Clearly, individuals and groups in an organization have to work together toward a common set of goals, and use interdependent processes to be maximally effective. Figure 1 provides a graphic representation of these six dimensions.

Figure 1. Six Dimensions of Climate



Despite some significant research attention, there are some major deficits in the literature on group climate to date. One of the criticisms inherent in climate based research over the years, for example, has been the lack of consistent conceptualizations and related measures of this variable. In part this is due to the typical confusion by many between group climate and organizational culture, which are two totally different constructs (Burke &

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Litwin, 1992; Reichers & Schneider, 1990). Such inconsistency is also encouraged by the lack of sufficient attention to climate as an important construct in teams. Despite a renewed interest in effective teams and teamwork in a variety of outlets both academic and professional (Church, 1996), for example, relatively few books or papers on teams and groups actually incorporate the notion of climate at all. Although some climate related issues are certainly reflected in such work (e.g., Katzenbach & Smith, 1993), climate as a major construct in and of itself is in fact often entirely ignored. The result of this confusion is that comparisons of climate data and effects across different organizational settings and contexts are somewhat problematic. Moreover, many questions still remain regarding the fundamental nature of this variable, the impact of potential moderators, and the extent to which this variable is even related to its larger brethren organizational culture. Clearly, more research is needed of a large-scale comparative nature that will help us explore the underlying structure of climate, its components, and inter-relationships.

Another important issue in workgroup or team related research is employee empowerment, or as some (e.g., Church & Waclawski, 1996) have termed it, enablement. Enabling workgroups is one of the "ultimate outcomes" to which many change efforts and initiatives are directed (e.g., Bennis & Nanus, 1985; Block, 1987; Kouzes & Posner, 1987; Shaw, 1992; Wellins et al., 1991). Providing employees with the necessary opportunities and support to take greater ownership of both processes and outcomes has been linked to such desirable organizational improvements as increased individual initiative, enhanced performance, and greater enjoyment on the job (e.g., Kouzes & Posner, 1987; Shaw, 1992; Wagner, 1994). Additionally, the concept of empowerment through participation is considered by researchers and practitioners to be one of the fundamental underlying dimensions to many of the more popular organizational change initiatives such as continuous improvement, total quality transformations, and organizational learning (e.g., Schmidt & Finnigan, 1993; Wellins et al., 1991).

While prior studies have examined the impact of managerial behaviors on employee perceptions of enablement (Church & Waclawski, 1996), the link between this important outcome and climate experienced in the group has not been as well explored. Although one might hypothesize given the research relationships cited above that groups with stronger, more positive work climates would have members who also feel more enabled or empowered to act, this relationship has been to be fully explored.

In addition, although important research has been done linking the concept of managerial self-awareness (MSA) --as reflected in self-other ratings similarity in a executive or manager's behavior--to individual performance (e.g., Church, 1997; Church & Waclawski, 1999a; Yammarino & Atwater, 1997), this type of analysis has yet to be applied to non-managerial experiences such as member-on-member perceptions of team climate. Clearly, there is a need to test the impact of perceptual similarity from a manager-team perspective and its impact on feelings enablement or empowerment as well. While one might expect based on prior research that those managers who are more aware of the true conditions in their workgroups would be better able to provide enabling conditions for their employees, this relationship has not been tested empirically.

The purpose of the following study was to examine these research questions by exploring the similarities and differences in the underlying nature of workgroup climate based on data collected from over 5,000 different workgroups or teams across a variety of organizational settings. Large-scale, applied comparative data analyses such as these have the potential to make an important contribution to the fields of HRD, OD and I/O psychology for two reasons. First, given large sample sizes, this type of study allows for the detection of potentially subtle yet important effects inherent in the nature of employee perceptions (in this case concerning workgroup climate) which might otherwise not be identified. Second, and equally importantly, findings from this type of research provide a descriptive benchmark regarding the nature of the phenomenon examined to which other practitioners can compare trends from an organizational assessment process or researchers can compare results from related investigations.

Method

The following study was based on a combined dataset collected between 1990 and 1999 from multiple organizations. More specifically, climate data from 5,051 teams (including 5,051 managers or team leaders and 23,644 workgroup members) from 10 different samples were examined. This equates to an average group or team size of 4.46 individuals (SD = 1.34) per focal team manager responding. Since the last sample group represented an open enrollment public program for a prestigious University, the total number of organization represented is no less than 10 are more closely approximating 50. All data was collected using the same 28 item instrument.

Although geographically and functionally mixed given the global nature of many of the organizations included, the demographics for team leaders provide some indication of the types of groups examined (team member data in this regard was not collected for confidentiality purposes). More specifically, the majority of managers were males (84.3%), and over half were from North America. The average age was 43.57 (SD = 6.99), and the mean tenure was 13.80 years (SD = 8.70). All of the data were collected in conjunction with one of many different multirater feedback-based executive, management or leadership development programs. Table 1 provides an overview of the response sizes by industry group.

Table 1: Industry Description & Sample Size

Sample/Industry Description	Manager Ratings	Team Member Ratings
1. Apparel/Clothing	78	329
2. Consumer Banking	104	385
3. Diversified Products/Holdings	370	1,701
4. Financial Services	94	412
5. High Tech Government Agency	1,942	10,333
6. Insurance Services	78	369
7. Metal/Chemical	105	525
8. Pharmaceuticals	526	2,456
9. Professional Service Firm	690	2,763
10. Public Program for Managers	1,064	4,371
Totals	5,051	23,644

Although the nature and content of the developmental programs varied considerably depending on the organization, the leadership issues being faced, and the level of training delivery methods employed, in all cases the data were collected and used entirely for individual development purposes only—i.e, non-evaluative in nature. Thus, while the settings differed, the instrument, the process by which data were collected and reported and the uses to which it were directed was held relatively constant. In each setting, careful attention was paid to protecting the confidentiality of the climate ratings obtained as well as the validity of the process, consistent with various practitioner recommendations regarding developmental multirater feedback applications (e.g., Bracken, 1994; Church & Waclawski, 1998; Harris, 1994).

Two measures were used in this analysis. First, the primary measure of interest was workgroup climate. A standardized instrument (Burke, 1986) used in prior feedback programs and applied research (e.g., Bernstein & Burke, 1989; Church, 1995; Church & Waclawski, 1997; Litwin & Stringer, 1968; Litwin et al., 1978; Waclawski, 1996), this 28-item measure assessed perceptions of the climate experienced in the focal managers' workgroup on a day-to-day basis along the six major dimensions noted earlier: *clarity*, *recognition*, *participation*, *standards*, *intraunit relations* and *interunit relations*.

Each of the 28 items was rated using two different scales. First, each individual (manager or team member) rated the extent to which he/she felt that the statement was descriptive of day-to-day conditions in the workgroup using an agreement scale (1=no agreement, 2=weak agreement, 3=moderate agreement , 4=strong agreement, 5=very strong agreement). Next, each statement was rated as to the perceived importance of that condition for effective group performance using an extent scale (1=neutral, 2=low importance, 3=moderate importance, 4=high importance, 5=critical importance). These two scales are used to help raters discriminate between the Lewinian notions of the current state (*what is*) and ideal state (*what should be*). In general, the internal reliabilities of the summary scores for the instrument were quite high among the present sample (.89 for managers, .94 for team members). Subscale reliabilities were lower but still acceptable ranging from .63 to .73 for manager ratings, and .74 to .86 for team members.

The second measure employed was a standard 4-item index of the extent to which the manager and his/her team members felt enabled or empowered on a day-to-day basis in their workgroup. Based on four characteristics of empowerment--*development, contribution, integration* and *satisfaction* as defined in previous research and theory (Bennis & Nanus, 1985; Burke & Coruzzi, 1993)--this measure has been used in several prior studies as an important outcome of managerial behavior and workgroup experience (e.g., Church & Waclawski, 1996).

Although based on a smaller sample of individuals (n = 2,151 teams--this measure was not used in all settings), the alpha measure for the enablement scale was quite strong for team members (.83), and acceptable for manager ratings of their own feelings of enablement (.69).

Manager-team member rating congruence (often an operationalization for the construct managerial self-awareness) was computed using two different methods: (a) the collective level of agreement between manager and team members' climate ratings using a standard index of profile similarity *d*, (e.g., Church, 1997; Nunnally, 1978; Tisak & Smith, 1994); and a four-group categorical agreement method (e.g., Church, 1998; Church & Waclawski, 1999b; Yammarino & Atwater, 1997) whereby participants are classified as under-raters, lower performing accurate-raters, higher performing accurate-raters, or over-raters based on a comparison of total scores.

Results and Discussion

Analyses were conducted on these data using total scores for all 28 items and across the six subscales to look for basic ratings trends and themes across moderators. Averaged team member ratings were used for all analyses as this represented a closer approximating to the true nature of the workgroup experience. Table 2 provides an overview of the descriptive statistics and correlations for each of the summary scores, difference scores, and demographics data where available (not all individuals completed all demographic items).

In general, although within source correlations were quite high for the climate and importance ratings as well as enablement perceptions (e.g., ranging from .35 to .64), between source relationships were far weaker and typical of patterns seen in behaviorally-based self-other ratings research (e.g., Church, 1997; Church & Waclawski, 1999a; Harris & Schaubroeck, 1988). In fact, while manager and team member perceptions of climate were significantly moderately correlated with one another (r = .34, p < .001), importance levels and feelings of enablement yielded much weaker relationships (r = .19, p <. 001), suggesting only approximately 4% shared variance in manager and team member ratings on the importance of these variables. Thus, while they may be related, it is unlikely that they represent the same underlying construct, which would argue for the inclusion of both notions in descriptive treatments of teams and groups.

Table 2: Descriptive Statistics & Correlations Among Summary Level Variables

	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Mgr Climate Total	3.75	0.43											
2. Mgr Imp. Total	3.94	0.37	*.46*										
3. Mgr Enablement	3.91	0.54	*.59*	*.35*									
4. Team Climate Total	3.56	0.36	.34	.12	.21								
5. Team Imp. Total	3.82	0.26	.12	.19	.13	*.47*							
6. Team Enablement	3.80	0.45	.18	.08	.19	*.64*	*.35*						
7. Climate Profile Agmt.	0.98	0.25	.08	.03	.05	-.26	-.19	-.18					
8. Imp. Profile Agmt.	0.78	0.22	-.09	-.15	-.05	-.15	-.26	-.13	.42				
9. Number of Members	4.46	1.34	.14	.05	.14	.05	-.05	.07	-.02	-.18			
10. Age (Manager)	43.57	6.99	.19	.05	.10	.07	-.02	.00	.08	-.03	.10		
11. Gender (Manager)	1.16	0.36	-.04	.10	.02	-.02	.04	.02	.03	.02	-.04	-.19	
12. Tenure (Manager)	13.80	8.70	.18	.05	.09	.12	.01	.01	.03	-.07	.18	.55	-.14

N.B.: Given the sample sizes, all correlations above/below r = .05 significant at p < .05. All correlations above .10 can be considered a meaningful result. Italics are used to denote within-group ratings. Underlines are used to denote between-group ratings.

An examination of potential moderators at the summary score level revealed little in the way of interesting effects. For example, the size of the group (i.e., number of team members providing ratings) and the gender of the focal manager provided little in the way of meaningful relationships. Interestingly, while age and tenure of the focal manager (which were of course highly correlated with each other) were significantly moderately related to managers' own ratings of climate (r = .19, r = .18, p < .001 respectively), no consistent meaningful effects were present for these same variables when examined at the team member level. The only exception here was that team

member climate ratings were somewhat more likely to be positive ($r = .12$, $p < .001$) as the tenure of the manager increased.

Given the lack of general effects for demographic variables, which suggests a strong degree of inherent consistency in the data obtained, a more detailed set of analyses were examined by organizational sample. The ANOVA results and follow-up Scheffé post-hoc comparisons revealed a number of interesting findings across the various measures. In general, workgroups in the consumer banking, high-tech government agency and apparel organizations had significantly higher levels of positive climate and enablement than did those teams in professional service firms, diversified products, financial services, and the public program. These effects were most enhanced for the subscales reflecting the degree of *recognition* and *participation* in the workgroup, as well as the quality of *intraunit* and *interunit relations*. A pattern such as this argues against the possibility of generalized rating effects and points more specifically to distinct differences in the climate of the workgroups experienced in these different organizational settings.

Although it is difficult to speculate regarding the relevance of generalized findings for the public program (which represents teams from many different organizations) and the diversified products sample, the differences observed between the other groups were consistent with some of the cultural strengths and weakness of their respective organizations. For example, the professional service firm and the financial services organizations had cultures that were much less people focused and more financially driven, bureaucratic and procedural in nature. In comparison, both the consumer banking and apparel organizations had more informal cultures and were focused on serving front-line customers (and not CEOs and CFOs of major corporations as with the professional and financial services samples). Thus, more positive levels of recognition, participation, enablement, and intraunit and interunit relations within and across workgroups all make more sense here. Although the government agency was far from customer driven in any context, the culture there was more informal and focused on appreciating people's contributions rather than billable hours which apparently manifested a similar pattern among the climate ratings given. In sum, while climate is indeed a distinctly different construct from culture, group and team climate at the collective level does appear to mirror the overall tendencies of the larger cultural context. Given this summary, it should not be surprising that similar results were also found with respect to importance ratings.

Interestingly and also worthy of further examination was the fact the lowest levels of manager-team member agreement (and the only one that was found to be significantly different following a Scheffé comparison) were among the teams from the government agency. Whether this is a reflection of the lack of self-awareness among this specific sample or indicative of some other type of rating effect is difficult to say. Given prior research on self-awareness with government samples (e.g., Church, 1997), however, it may well be that this group is in fact significantly less aware of or attentive to their own behaviors and surroundings, compared with leaders and managers in private organizations.

Next, in order to test the relationship between workgroup climate and feelings of enablement, a multiple regression analysis was conducted using enablement as the dependent measure and the six climate subscale scores as the predictors. Although shared method variance is always a concern in this type of analysis (i.e., when using ratings from the same group on different constructs), the moderate outcome of the regression model did not suggest that this was a serious concern. More specifically, the six climate subscales accounted for a total of 42% of the variance in enablement ratings $F(6,1329) = 158.36$, $p < .001$). With respect to the predictors, five of the six factors yielded significant betas, with *participation* and *standards* being the strongest by far ($B = .27, .26$ vs. .12 for *clarity*, .11 for *recognition*, and .08 for *intergroup relations*). Interestingly enough, when the manager ratings on the same six subscales were added to the equation, no additional variance was explained. The addition of the manager-team member profile agreement index also failed to contribute to any new unexplained variance. In short, while the strength of the team climate itself was a powerful predictor of feelings of enablement, manager's own perceptions and their level of awareness with respect to climate strengths and weaknesses were unrelated to how empowered team members felt.

Although the self-awareness agreement index failed to yield a significant additive effect beyond the member climate ratings, a final set of analyses were conducted to examine the possibility of a relationship between climate based self-awareness on the part of the team manager and feelings of enablement using the four category method of computing manager-team member agreement (which is sensitive to different types of results from the profile agreement method). Based on a significant ANOVA model with organizational sample (for control purposes) and agreement group as the independent variables, it was apparent that agreement group did contribute significantly to members' feelings of enablement $F(3,1316) = 86.87$, $p < .001$. An examination of the post-hoc Scheffé comparisons indicated that the highest levels of enablement ($M = 4.05$) among team members were experienced in

those groups with higher climates and managers who were able to accurately assess the level of the climate in their group. The next highest level of enablement (M = 3.95) was experienced by those members in groups with managers who were more modest in their ratings of climate (i.e., less accurate) but still had higher climate ratings overall. Means for accurate managers from lower rated climate groups (M = 3.67) were not significantly different than for those from the over-rating manager groups (M = 3.61).

Summary

In summary these data indicate that workgroup climate does indeed play an important role in employees' feelings of enablement. While managers' self-perceptions of climate did not contribute much to the predictive equation, there was a positive additive effect on enablement when the climate was strong *and* managers are aware of this fact. In other words, under positive circumstances managers did appear able to capitalize on a positive group dynamic. Future research is needed, however, to better understand what managers can do to help improve less positive group situations.

In addition, the six factor model of climate described here proved to be quite robust in nature. The analysis of potential individual moderators suggested little in the way of effects by gender, age or team size. This finding, in and of itself, argue for the use the six dimensions as outlined above for future climate conceptualization and research. In fact, the variable with the strongest impact on group and team climate appeared to be the nature (e.g., culture) of the organization itself. As suggested by the pattern of subscale results observed across the various settings, the climate among individual teams within an organization, at least at the aggregate level, appears to reflect the strengths and weakness of the larger organizational culture as well.

As with any study there are a number of limitations inherent in this research. F irst, though the sample is quite diverse, the instrument and model have still to be tested across a truly broad range of individuals and teams across all types of organizational settings (e.g., government, academic, family business, volunteer, health care, etc.). Second, the majority of the teams here represented either senior or middle management levels and thus patterns could be quite different with lower level and front-line employees. Third, although team member demographics would have been useful, these data is often unavailable and uncollectable due to confidentiality concerns on the part of participants. Finally, though it would be helpful to have additional measures for comparative purposes (e.g., reflection leadership style, managerial behavior, organizational culture, etc.), the instrumentation used across settings varied so much as to be totally incomparable. Future research should be directed at measuring climate on these factors and other aspects of individual and collective behavior for more detailed levels of analysis.

References

Bennis, W. G., & Nanus, B. (1985). Leaders: The strategies for taking change. New York: Harper & Row.

Bernstein, W. M., & Burke, W. W. (1989). Modeling organizational meaning systems. In R. W. Woodman and W. A. Pasmore (Eds.), Research in organizational change and development (Vol. 3, pp. 117-159). Greenwich CT: JAI Press.

Block, P. (1987). The empowered manager: Positive political skills at work. San Francisco: Jossey-Bass.

Bracken, D. W. (1994). Straight talk about multirater feedback. Training & Development, 48(9), 44-51.

Burke, W. W. (1986). Executive practices and climate questionnaire. Pelham, NY: W. Warner Burke Associates, Inc.

Burke, W. W., & Coruzzi, C. A. (1993). The many facets of empowerment. Symposium conducted at the annual meeting of the Academy of Management, Atlanta, Georgia.

Burke, W. W., & Litwin, G. H. (1992). A causal model of organizational performance and change. Journal of Management, 18, 523-545.

Church, A. H. (1998). Moderators of managerial behavior ratings: an analysis from multiple perspectives. J. Torraco (Ed.), Academy of Human Resource Development 1998 Conference Proceedings 747-754, Baton Rouge, LA: AHRD.

Church, A. H. (1997). Managerial self-awareness in high performing individuals in organizations. Journal of Applied Psychology, 82(2), 281-292.

Church, A. H. (1996). From both sides now: The power of teamwork— fact or fiction?The Industrial-Organizational Psychologist, 34(2), 85-96. Reprinted in 1996 in R&D Update— Chandler &Macleod's Monthly

Research & Development Newsletter (Sydney, Australia), 14, 1-9, and in 1998 in Team Performance Management Journal, 4(2), 42-52.

Church, A. H. (1995). Managerial behaviors and workgroup climate as predictors of employee outcomes. Human Resource Development Quarterly, 6(2), 173-205.

Church, A. H., & Waclawski, J. (1999a). Influence behaviors and managerial effectiveness in lateral relations. Human Resource Development Quarterly, 10(1), 3-34.

Church, A. H., & Waclawski, J. (1999b). The impact of leadership style on global management practices. Journal of Applied Social Psychology, 29(7), 1416-1443.

Church, A. H., & Waclawski, J. (1998). Making multirater feedback systems work. Quality Progress, 31(4), 81-89.

Church, A. H., & Waclawski, J. (1997). The impact of leadership style on workgroup climate and enablement. Paper presented at the 4th Annual International Conference on Advances in Management, July 10, Rexdale, Ontario, Canada.

Church, A. H., & Waclawski, J. (1996). The effects of personality orientation and executive behavior on subordinate perceptions of workgroup enablement. International Journal of Organizational Analysis, 4, 20-51.

Cohen, S. G. (1993). New approaches to teams and teamwork. In J. R. Galbraith, E. E. Lawler, & Associates (Eds.), Organization for the future: The new logic for managing complex organizations (pp. 194-226). San Francisco: Jossey-Bass.

Daniel, T. L. (1985). Managerial behaviors: Their relationship to perceived organizational climate in a high-technology company. Group & Organization Studies, 10, 413-428.

Friedlander, F., & Margulies, N. (1969). Multiple impacts of organizational climate and individual value systems upon job satisfaction. Personnel Psychology, 22, 171-183.

Galbraith, J. R. Lawler, E. E., & Associates (Eds.) (1993). Organization for the future: The new logic for managing complex organizations. San Francisco: Jossey-Bass.

Guzzo, R. A., Salas, E., & Associates (Eds.). (1995). Team effectiveness and decision making in organizations. San Francisco, CA: Jossey-Bass.

Hammer, M., & Champy, J. (1993). Reengineering the Corporation. New York: Harper Business.

Harris, M. M., (1994). Rater motivation in the performance appraisal context: A theoretical framework. Journal of Management, 20(4), 737-756.

Harris, M., & Schaubroeck, J. (1988). A meta-analysis of self-supervisor, self-peer, and peer-supervisor ratings. Personnel Psychology, 41, 43-61.

Howard, A (1995). (Ed.), The Changing Nature of Work. San Francisco: Jossey-Bass.

Katzenbach, J. R., & Smith, D. K. (1993). The wisdom of teams: Creating the high-performance organization. Boston, MA: Harvard Business School Press.

Kouzes J. M., & Posner, B. Z. (1987). The leadership challenge: How to get extraordinary things done in organizations. San Francisco: Jossey-Bass.

Litwin, G. H., Humphrey, J. W., & Wilson, T. B. (1978). Organizational climate: A proven tool for improving performance. In W. W. Burke (Ed.), The cutting edge: Current theory and practice in organization development (pp. 187-205). La Jolla, CA: University Associates.

Litwin, G. H., & Stringer, R. A. (1968). Motivation and organizational climate. Boston, MA: Harvard Business School Press.

Manz, C. C. & Sims, H. P. Jr. (1995). Business Without Bosses: How Self-managing Teams Are Building High-Performing Companies. New York: Wiley.

Nirenberg, J. (1993). The living organization: Transforming teams into workplace communities. Homewood, IL: Business One Irwin.

Nunnally, J. C. (1978). Psychometric theory (2nd ed.). New York: McGraw-Hill.

Reichers, A. E., & Schneider, B. (1990). Climate and culture: An evolution of constructs. In B. Schneider (Ed.). Organizational climate and culture (pp. 5-39). San Francisco, CA: Jossey-Bass.

Schmidt, W. H., & Finnigan, J. P. (1993). The race without a finish line: America's quest for total quality. San Francisco: Jossey-Bass.

Schneider, B. (1980). The service organization: Climate is crucial. Organizational Dynamics, 9(2), 52-65.

Sexton, C. (1994). Self-managed work teams: TQM technology at the employee level. Journal of Organizational Change Management, 7(2), 45-52.

Shaw, R. B. (1992). The capacity to act: Creating a context for empowerment. In D. A. Nadler, M. S. Gerstein, R. B. Shaw, & Associates, (Eds.), Organizational architecture: Designs for changing organizations (pp. 155-174). San Francisco, CA: Jossey-Bass.

Tisak, J., & Smith, C. S. (1994). Defending and extending difference score methods. Journal of Management, 20(3), 675-682.

Van Eron, A. M., & Burke, W. W. (1992). The transformational/transactional leadership model: A study of critical components. In K. E. Clark, M. B. Clark, and D. P. Campbell (Eds.), Impact of Leadership (pp. 149-167). Greensboro, NC: Center for Creative Leadership.

Waclawski, J. (1996). Large-scale organizational change and performance Doctoral Dissertation, Graduate School of Arts and Sciences, Columbia University, New York, NY. UMI dissertation abstracts.

Wagner, J. A. III (1994). Participation's effects on performance and satisfaction: A reconsideration of research evidence. Academy of Management Review, 19, 312-330.

Wellins, R. S., Byham, W. C., & Wilson, J. M. (1991). Empowered teams: Creating self-directed workgroups that improve quality, productivity, and participation. San Francisco: Jossey-Bass.

Yammarino, F. J., & Atwater, L. E. (1997). Do managers see themselves as others see them? Implications of self-other rating agreement for human resources management. Organizational Dynamics, 25(4), 35-44.

The Relationship between Organisational Commitment and Organisational Climate

Adela J McMurray
Swinburne University of Technology

Don Scott
Southern Cross University

R Wayne Pace
Brigham Young University

The purpose of this study was to explore the relationship between organisational commitment and organisational climate. Subjects were chosen from three large Australian automotive component manufacturing companies. A questionnaire was administered to both white and blue collar employees in English, Vietnamese and Cambodian languages. 1,413 respondents from forty-two different countries of origin were surveyed with a 97.8% response rate, yielding 1,382 usable questionnaires. A significant correlation (.66) between organisational commitment and organisational climate was discovered.

Keywords: Commitment, Climate, Culture

Denison (1996) has suggested that organisational climate and organisational culture are two major approaches to understanding organisational behaviour. Climate shares similar elements with commitment in that they are both psychological concepts that refer to behaviours. Sharing two psychological and behavioural attributes, there could be a relationship between the two concepts within the workplace. This study attempted to advance the understanding of both organisational commitment and organisational climate in the workplace.

Organisational Commitment

Organisational commitment has been defined as a measure of an individual's dedication and loyalty to an organisation (Cohen & Kirchmeyer, 1995; Meyer and Allen, 1997). It is viewed as an important variable in facilitating the understanding of an employee's workplace behaviour (Bateman & Strasser, 1984) for it has the potential to predict organisational outcomes such as performance, turnover, absenteeism, tenure and organisational goals (Meyer & Allen, 1997).

Organisational Climate

Researchers have investigated organisational climate for over thirty years. These studies appear to have reached a consensus that organisational climate is a psychological, multi-dimensional, complex phenomenon, which has its intellectual roots in "Koffka's (1935) ' behaviour environment'and Lewin's (1936) notion of 'life space" within Gestalt psychology (Fink & Chen, 1995; Schneider, 1985; Joyce & Slocum, 1982).

Organisational climate may be defined as "a characteristic of an organisation which . . . embodies members'collective perceptions about their organization with respect to such dimensions as autonomy, trust, cohesiveness, support, recognition, innovation and fairness... "(Moran and Volkwein, 1992. P.20).

The Relationship Between Work Commitment and Organisational Cimate

The question addressed in this study was whether there was a relationship between organisational climate and the organisational commitment construct. A review of the literature identified no study that had specifically set out to test those relationships. However, there is some support for the concept that individuals'perceived relationships with their supervisors may predict organisational commitment. Several studies have also made indirect mention of

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various variables, such as autonomy and trust, which were interpreted as dimensions of organisational climate and that represent individuals'perceptions of their relationships with their supervisors in the workplace.

Researchers have suggested that autonomy (Wallace et al, 1996), supervisor support (Benson, 1996) and cohesiveness (Buchanan, 1974) relate positiveiy to organisational commitment. Further, Steers (1977) found a relationship between the autonomy and trust dimensions of organisational climate and commitment. According to Loiu (1995) trust is associated with other organisational activities such as organisational change and development (Golembiewski, 1986), and organisational effectiveness (Culbert and McDonough, 1986).

Fink (1992) proposed that organisational climate tended to be positively related to employee organisational commitment. For example, in his study, organisational climate was positive when organisational commitment was high. His empirical study about work commitment in two US manufacturing companies corroborated Herman's (1991) qualitative doctoral study of company spirit, where organisational climate was broadly defined as "the feel of the workplace" (p. 12).
Iverson, et al. (1995) conducted a study in a public hospital where they found "that organisational commitment and trust appeared to be significant determinants of organisational performance" (p. 12).

Research Questions

The following research questions emerged from the above studies: (1) Is there a relationship between organisational climate and commitment, and (2) how are the two constructs related? The examination of these concepts should have both theoretical and practical implications for understanding workplace behaviour. The null hypothesis tested in this research study, derived from the research questions, may be stated as follows: There is no association between organisational commitment and organisational climate.

The Measurement of Organisational Commitment and Organisational Climate

A number of measures of organisational commitment can be found in the literature (Cook and Wall, 1980; DeCotiis and Summers, 1987; Hrebiniak and Alutto, 1972; Mowday, Porter and Steers, 1982; Oliver,1984 Ritzer and Trice, 1969); however, the most widely used scales are those by Meyer and Allen (1984) and Porter et al (1974). Of the instruments that have been mainly used, Porter et al's (1974) Organisational Commitment Questionnaire (OCQ) is attitudinal and Meyer and Allen's (1984) is behavioural. In addition, Ward & Davis (1995:38) consider Allen & Meyer's behavioural organisational commitment measure superior because of its ability to capture the multidimensional nature of the commitment construct as well as its high reliability and supportive factor analysis. Cohen (1996) agrees with that assessment, leading us to use the Meyer and Allen measure in this study.

The Allen & Meyer measure evaluates a psychological state that is manifested in behaviour. Such an operational definition makes organisational commitment compatible with measures of organisational climate and offers a theoretical framework from which to view the relationship between organisational commitment and climate. Measures of organisational climate have been predominantly derived from aggregated organisational member's perceptions. Several studies have distinguished organisational climate from other organisational constructs, such as organisational commitment (Jablin, 1988), job satisfaction (La Follette & Sims, 1975; Ticehurst & Ross-Smith, 1992), communication satisfaction (Downs & Hazen, 1977), job attitude (Waters et al, 1976), and organisational structure (Lawler III et al., 1974). Koys and DeCotiis (1991) developed a measure of organisational climate. A modification of this instrument was used by McMurray (1996) to study a university environment, where it was found that the instrument needed to be adapted for use in a different organisational sector. For this reason the Koys and DeCortiis instrument, with language modifications to render it more suitable for the new environment and with the addition of other variables derived from interviews with personnel in the different companies, was used in this research.

Research Methodology

Subjects. Three large automotive component manufacturing companies were chosen for the study as being representative of the Australian manufacturing industry. Both white collar and blue collar workers completed a survey, which was administered in English, Vietnamese and Cambodian languages. Fieldwork was conducted over a seven-month period commencing with the development of a survey instrument through pre-testing, pilot studies,

and final collection and analysis of the data. The study was fully supported by the management of the three companies who provided time for survey completion during normal working periods, when successive groups of workers were given time off to visit a survey venue and to complete the questionnaire. In Company B and C there were three rotating shifts (morning, day and night) and in Company A there were only two shifts (day and night). The researcher made face to face contact with each respondent and was also able to gain valuable feedback on respondent's thoughts. This support for the research, and the fact that the researcher first spent a month at the different companies'premises becoming acquainted with the staff, resulted in a 97.8% response rate. Information was collected from respondents from forty-two different countries of origin and a population of 1,413 workers with 1,382 usable responses.

An examination of the relevant literature and exploratory fieldwork, laid the foundation for three stages of data collection. In the first stage, documentary analysis, fieldwork and focus group meetings, in each Company, determined the content of the Organisational Climate survey instrument which was then pre-tested. Results from the pre-test were used to modify the survey instrument in preparation for a second pilot study. The pilot study was a miniature of the main study and was formally administered in the same manner as the main study. During this stage, the researcher also asked two open-ended questions that related to the respondents'perceptions of the survey and its contents. An analysis of the pilot study data revealed that the survey was reliable, with a Cronbach Alpha value greater than .80 for both of the climate and commitment instruments.

Development of the Commitment and Climate Constructs

The Allen & Meyer (1990) organisational commitment instrument used in the research was examined for construct validity and reliability. The total data-set was first separated into odd and even numbered respondents to give two randomly selected sets of data. Using the even numbered response data-set, the questions in each of the three categories of normative, affective and continuance commitment identified by Allen & Meyer and included in the data-set, were explored to see whether they formed valid constructs, using confirmatory factor analysis by means of the EQS programme (Bentler, 1989). The proposed model did not fit the data (GFI = 0.85 SRMR = 0.75). Hence, the data that had been collected demonstrated that the dimensions identified by Allen & Meyer (1990) did not form a valid second order instrument for measuring organisational commitment in an Australian shop floor manufacturing environment. This was in accordance with the result reported by Cohen (1996), who also found that a second order construct did not fit his data.

In consequence of this, the data were analysed further. The total set of questions was factor analysed using the maximum likelihood method and a promax (oblique) rotation (SAS /STAT, 1988). The use of an oblique rotation in factor analysis is considered to be more theoretically correct (Loehlin, 1992, p.168), since factors may not necessarily be orthogonal in nature. This process produced five factors based on an examination of the scree plot. These factors did not fit the original categories used in the questionnaire make-up with no clear identification of the dimensions represented by some of the factors. Inspection of the factor loadings showed a heavy loading of items onto the first two factors, with a reduction in the number of items and loading values on the remaining factors. Churchill (1979) has indicated that a failure to match an expected factor structure can be the result of "noise" arising from the incorporation into the data set of some incorrect items that should be eliminated. This result, therefore, suggested that the dimensions which had been included by Allen & Meyer (1990) could have contained some elements which were not truly part of an organisational commitment measure in a shop floor manufacturing environment, and that the measures in these dimensions were confusing the factor extraction process.

In order to examine the problems with the second order factor structure, the factor analysis results for the even numbered respondents were further inspected and variables with low communality values were noted and eliminated from the data-set. This process resulted in a data-set with ten variables. Allen & Meyer (1990) have suggested that there were three component factors of organisational commitment, namely affective, normative, and continuance. However, further factor analysis of this data-set yielded only two factors. The first factor was comprised of elements relating to both normative and affective dimensions of commitment. The second factor included elements of only normative commitment. The two factors, therefore, appeared to reflect modified normative and affective dimensions of commitment which were respectively labeled attachment and detachment commitment. Continuance commitment was not a component in this analysis. The reason for the absence of this component could not be readily identified. It may have related to the social security system in Australia in which workers may feel that they are ensured of a reasonable standard of living even if they leave employment. An

alternative reason could be that the people surveyed were mainly blue collar workers who felt that movement from one employer to another would pose few if any problems. A combination of both of these possibilities was also feasible. It would appear from this analysis that the components of organisational commitment may vary under different circumstances.

The two dimensional model of organisational commitment, identified by the factor analysis, was now tested using confirmatory factor analysis on the odd numbered respondents from the data-set. A valid second order structure was obtained and the fit indices are shown in Table 1.

The goodness of fit measures indicated a reasonable fit (Hair et al. 1998; Nunnally & Bernstein, 1994) and, therefore, the organisational commitment construct could be viewed as showing an acceptable level of construct validity. The second order organisational commitment construct was also tested for reliability, and an acceptable Cronbach Alpha value of .82 was obtained (Nunnally and Bernstein, 1994).

The scores obtained on interval-type rating scales were used to test the construct validity and reliability of an overall second order Koys and DeCotiis (1991) organisational climate model. As in the case of the organisational commitment construct, the data-set was divided into two parts. For this purpose, a confirmatory factor analysis was conducted using the even numbered data-set and the EQS programme (Bentler, 1989). The fit values suggested that the solution obtained from the data was very different from that suggested by the relationships depicted in the model and, hence, that the Koys and DeCotis model did not represent a good fit and did not form an adequate second order instrument.

In consequence of this, the data were further analysed using the even numbered response data-set. Factor analysis produced four factors that did not represent the original eight categories used in the questionnaire make-up. There was also no clear identification of the dimensions represented by some of the factors. In this regard it should be noted that Koys and DeCotiis (1991) also found that the structure which they determined from an oblique factor analysis did not fully accord with their expected categorisation of items.

With respect to the four dimensions found in this analysis, two, namely autonomy and cohesion, corresponded to two of the eight dimensions of Koys and DeCotiis (1991). Two were amalgams of the other six dimensions identified by trust, support, fairness, recognition, pressure, innovation. The dimensions identified by the factor analysis were also examined for reliability using Cronbach alpha. Variables were eliminated where they were found to substantially degrade the overall alpha value.

Using the odd numbered respondents of the data-set, the identified dimensions were tested using confirmatory factor analysis to see whether they formed a valid second order construct. A LaGrange Multiplier test indicated that a few of the indicator variables were related to more than one factor, but since these linkages did not represent any substantive variation to the construct model, they were added. A good fit was found between the model and the data.

The goodness of fit measures indicated a good fit (Hair et al. 1998; Nunnally & Bernstein, 1994), so the organisational climate model was deemed to have an acceptable level of construct validity. The second order construct was also tested for reliability and an acceptable Cronbach alpha value of .94 was obtained.

Results

The null hypothesis that there is no association between organisational commitment and organisational climate was examined by developing and testing a structural model of this relationship. The model was tested using EQS (Bentler, 1995) and the goodness of fit measures indicated a good fit (Hair et al. 1998). The relationship model was considered to show an acceptable level of construct validity. The fit indices for this model are shown in Table 1 with a correlation of .658 between organisational commitment and organisational climate.. The hypothesis was, therefore, rejected.

Table 1.
Goodness of fit measures for the organisational commitment and organisational climate relationship model

Standardised root mean square residual (SRMR)	0.03
Comparative fit index (CFI)	0.94
Bentler-Bonnet normal fit index (NFI)	0.92
Bentler-Bonnet non-normal fit index (NNFI)	0.91
Goodness of fit index GFI	0.95
Adjusted goodness of fit index (AGFI)	0.92

The examination of the proposed relationship model indicated that organisational climate, specifically recognition, support and trust dimensions, were significantly and positively related to attachment and detachment dimensions of organisational commitment. This result indicated that when a respondent's orientation to organisational climate is positive, then their orientation to organisational commitment is also positive. When the respondent orientation to organisational climate was negative, then the orientation to organisational commitment was also negative.

Discussion

Fink, (1992) and Iverson (1995) suggested that there was a relationship between organisational climate and commitment, but no previous study had specifically tested to see whether the two constructs were statistically related, and to determine the structure of such a relationship. This research showed that the two constructs were significantly and positively related.

The literature also contained studies that suggested a strong relationship between affective commitment and absenteeism (Deery et al. 1992; Goff et al, 1990; Meyer & Allen, 1997). Where there was a negative (or low) affective commitment, absenteeism was high. Although this study did not seek to examine absenteeism, the qualitative data revealed that high absenteeism rates were an issue in the companies studied. Comments by both chief executive officers (CEOs) and human resource managers (HRMs) clearly suggested that absenteeism was problematic and was one of their priority challenges. As an example, one respondent said:

"Bloody hell... I don't know what to do anymore... I have tried everything to fix it... We are so good to them... they get more money than anywhere else... they get free uniforms... incentives... and still they don't turn up to work... bloody spoiled... that's what they are... don't know when they got it bloody good".

The statements by the CEOs and HRMs also suggested that the affective and normative components of organisational commitment were low in their manufacturing industries. There was a negative orientation to the recognition, support and trust dimensions of organisational climate in the businesses which were surveyed. The model suggests that there should then be a correspondingly low level of organisational commitment. This seemed to be reflected in the absenteeism problems.

Conclusions

The positive correlations between organisational commitment and organisational climate scores clearly showed that organisational climate was significantly and positively related to organisational commitment.

Promoters of commitment

Organisational climate perceptions are constructed by employees through processes of meaning and attachment (Joyce & Slocum, 1990). The perceptions represent an employee's cognitive processing of external stimuli, such as the relationship with one's supervisor. If that is the case, then immediate blue-collar supervisors, leading hands and foremen are pivotal in fostering positive organisational commitment.

Commitment and National Culture

The relationship between organisational commitment and organisational climate also indicated that it is the employee's interactions with their fellow co-workers which include supervisors, foremen and leading hands, that strongly influence organisational commitment. In the case of blue-collar workers in the manufacturing industry, the power distance between shop floor supervisors, foremen, leading hands and shop floor employees is not that great. In Australia, the National culture is often referred to as one of " mateship." Mead (1990) has noted that supervisory and subordinate relationships are culture driven. This could very well be the case in this instance with supervisors creating workplace relationships with their subordinates that instill historical Australian cultural characteristics of mateship based on loyalty and obligation.

Contribution from the Study

Ideally, science encompasses an interconnectedness of principles, laws and often other general statements which result in theorems relating to facts (Medawar, 1984). It is only when science has this interconnectedness at the foundational level that stability and the power to build more information may occur. The results of this study are a contribution to the interconnectedness at the foundational level in that the results have evaluated the

interrelationship between organisational commitment and organisational climate which, in turn, has advanced our understanding of the existing work commitment literature.

Implications for Human Resource Development

Earlier studies have postulated that organisational commitment is intertwined with organisational culture (Legge, 1995). Some studies have also shown that organisational culture and organisational climate are integrated (Denison, 1996) and inter-subjective (McMurray, 1993). If organisational climate and organisational commitment are significantly related, as shown in this study, and both concepts are related to organisational culture, the implication strongly suggests that organisational culture is common to both concepts. Organisational commitment is related to organisational outcomes such as productivity, effectiveness, efficiency, and performance (Meyer, & Allen, 1998). The theoretical framework coming out of this study (Figure 1) provides a model for working with culture and commitment to strengthen commitment in an organization.

One way to develop organisational culture and commitment is for managers to build on existing beliefs in such a way that the new message resonates with an old belief, the building blocks of organisational climate, because organisational climate appears easier to develop and change than organisational culture (Hofstede et al. 1993). Since value is a core feature in the concept of climate, it is critical that those at the lower organisational levels, such as supervisors and shop floor employees, are made to feel valued by the higher level organisational leader.

In the manufacturing industry, this would be at the supervisory level. Supervisors operate under many constraints, such as time limitations, where task issues take priority over relationship issues (Schein, 1994). This was evidenced in this study by the following supervisor's comment:

"... I have to talk to different people in different ways - can't talk to everyone the same way, one your short to, others more soft, very difficult when... not much timæg I only have 1 minute to get message across".

Comments such as that illustrate the need for training at the supervisory level in the manufacturing industry, especially in communication and cultural diversity skills, as various cultural dimensions, notably collectivist and individualist, have been shown to directly affect communication styles (Gudykunst et al, 1996).

Sorcher and Meyer (1968:26) suggest that organisational culture training activities may help an employee identify more with the organisation . When an employees participate in any training activities, they are likely to identify with an organisation's climate which may positively influence their organisational commitment. Training activities could be used by supervisors to create a positive organisational climate. Organisational climate is situational and subject to being manipulated by individuals in power (Dennison, 1996). Organisational commitment could be enhanced by using organisational climate as a management tool.

It could be surmised, then, that the organisation's commitment to its employees influences employees' commitment to the organisation. One way to foster employees' commitment and involvement in the organisation would be for leadership to actively demonstrate their commitment to the employees through either training or visibility and accessibility (Smith, 1999). This is in line with the comments of Elsey (1997) who states that organisations, in order to survive, should be responsive to their environment and emphasize commitment to the development of their workforce.

Organisations might benefit from a review of their existing resource management and development policies, for it is evident that training should be implemented at the lower organisational levels, rather than at higher management levels, as is the popular belief. For training outcomes to be effective, they need to be accessible to the masses, i.e. closest to the worker at the supervisory level. The findings of this study in relation to the second order organisational commitment construct, where attachment and detachment commitment elements were significant in the manufacturing workplace, support this assertion, for acculturation occurs within immediate work groups and among peers. Supervisors, foremen, and leading hands have long been overlooked in their pivotal role in the acculturation and socialisation processes of employees.

Limitations of the study

This study was carried out in an Australian setting using a mixed group of both supervisory and blue-collar workers from different countries of origin. The results of the study are, therefore, specific to these circumstances and extrapolation of the results to other settings and cultural environments may not be suitable without further evaluations of those situations.

References

Allen, N.J. & Meyer, J.P. (1990). The measurement and antecedents of affective, continuance, and normative commitment to the organization. *Journal of Occupational Psychology*, 63, 1-18.

Bateman, T. S., & Strasser, S. (1984). A longitudinal analysis of the antecedent of organisational commitment. *Academy of Management Journal, 27*, 95-112.

Benson, J. (1996). *Dual commitment: Contract workers in Australian manufacturing enterprises* (Working Paper 101). Melbourne: University of Melbourne.

Bentler, P. M. (1989). ESQ structural equation program manual. Los Angeles: BMDP Software.

Buchanan, B. (1974). Building organizational commitment: The socialization of managers in work organizations. *Administrative Science Quarterly, 19*, 533-546.

Churchill, G. A., Jr. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research, 16*, 64-73.

Cohen, A. (1996). On the discriminant validity of the Meyer and Allen measure of Organizational Commitment: How does it fit with the work commitment construct. *Educational and Psychological Measurement, 56*(3), 494-503.

Cohen, A., & Kirchmeyer, C. (1995). A multidimensional approach to the relation between organizational commitment and nonwork participation. *Journal of Vocational Behavior*(46), 189-202.

Cook, J. & Wall, T.D. (1979) New work attitude measures of trust, organizational commitment and personal need non-fulfillment , *Journal of Organisational Psychology*, 53, 39-52.

Culbert, S. A., & McDonough, J. J. (1986). Organisational trust effectiveness The politics of trust and organisational empowerment. *Public Administration Quarterly, 18*(Summer), 171-178.

DeCotiisT.A., & Summers, T.P. (1987) A path analysis of a model of the antecedents and consequences of organizational commitment, Human Relations, 40(7), 445-470.

Deery, S. J., Erwin, P. J., Iverson, R. D., & Ambrose, M. (1992). *A Causal Model of Absenteeism: Evidence from Australian Blue-collar Employees* (Working Paper 68). Melbourne: University of Melbourne.

Denison, D. R. (1996). What is the difference between organizational culture and organizational climate? A native's point of view on a decade of paradigm wars. *Academy of Management Review, 21*, 619-654.

Downs, C. W., & Hazen, M. D. (1977). A factor analytic study of communication. *Journal of Business Communication, 10*(2), 63-73.

Elsey, B. (1997). *Australian Graduate Human Resource Studies*. Findon, SA: Techpress.

Fink, E. L., & Chen, S.-S. (1995). A Galileo Analysis of organizational Climate. *Human Communication Research, 21*(4), 494-521.

Golembiewski, R. T. (1986). OD perspectives on high performance: Some good news and some bad news about merit pay. *Review of Public Personnel Administration, 7*, 9-27.

Gudykunst, W. B., Matsumoto, Y., Ting-Toomey, S., Nishida, T., Kim, K., & Heyman, S. (1996). The Influence of Cultural Individualism-Collectivism Values on Communication Styles Across Cultures. *Human Communication Research, 22*(4), 510-543.

Herman, S. J. G. (1991). *Building Company Spirit in Multi-Divisional Organizations.* Unpublished Doctoral Dissertation, University of Massachusetts, Boston.

Hofstede, G. (1993). Cultural constraints in management theories. *Academy of Management Executive, 7*(1), 81-94.

Iverson, R. D., McLeod, C. S., & Erwin, P. J. (1995). *Employee commitment and trust: Implications for effective marketing* (Working paper no. 92). *Parkville, Vic: Dept of Management & Industrial Relations, University of Melbourne*.

Jablin, F,M. (1988) *Organizational entry, assimilation and exit.* In F.M. Jablin, L.L. Putnam, K.H. Roberts, & L.W. Porter (Eds) *Handbook of organizational communication* (pp.679-740). Beverly Hills: Sage.

Joyce, W. F., & Slocum, J. W. J. (1990). Strategic context and organizational climate. In B. Scheider (Ed.), *Organizational Climate and Culture* (pp. 130-150). San Francisco: Jossey-Bass.

Koffa, K. (1935). *Principles of Gestalt Psychology*. New York: Harcourt Brace.

Koys, D. J., & DeCotiis, T. A. (1991). Inductive measures of psychological climate. *Human Relations, 44*(3), 265-285.

LaFollette, W. R., & Simms, H. P. J. (1975). Is satisfaction redundant with organizational climate . *Organizational Behavior and Human Performance, 18*, 257-278.

Lawler III, E. E., Hall, D. T., & Oldham, G. R. (1974). Organizational climate: Relationship to organizational structure, process and performance. *Organizational Behavior and Human Performance, 11*, 138-155.

Legge, K. (1995). *Human Resource Management: Rhetorics and Realities*. Hampshire: Macmillan.

Lewin, K. (1936). *Principles of Topological Psychology*. New York: McGraw Hill.

Loehlin, J. C. (1992). *Latent Variable Models*. Hillsdale, NJ.: Lawrence Erlbaum and Associates.

Loui, K.T. (1995) Understanding employee commitment in the public organisation: A study of the juvenile detention centre. *International Journal of Public Administration, 18* (8), 1269-1295.

McMurray, A. (1993). *The Relationship Between Organisational Culture and Organisational Climate with Reference to a New University*. Unpublished A Dissertation for Master of Arts (Communication - Organisational Communication), Charles Sturt University, Mitchell, NSW.

Meyer, J. P., & Allen, N. J. (1984). Testing the "Side-Bet Theory" of organizational commitment: Some methodological considerations. *Journal of Applied Psychology*(69), 372-378.

Meyer, J. P., & Allen, N. J. (1997). *Commitment in the Workplace*. Thousand Oaks, Ca.: Sage Publications.

Meyer, J. P., Allen, N. J., & Gellatly, I. R. (1990). Affective and continuance commitment to the organization: Evaluation of measures and analysis of concurrent and time-lagged relations. *Journal of Applied Pschology, 75*, 710-720.

Moran, E.T. & Volkwein, J.F. (1992). The cultural approach to the formation of organisational climate. *Australian Journal of Communication*, 17 (1), 98-112.

Pettigrew, A. M. (1990). Organizational climate and culture : Two constructs in search of a role. In B. Schneider (Ed.), *Organizational Climate and Culture* (pp. 413-433). San Francisco: Jossey-Bass.

Porter, L. M., Steers, R. M., Mowday, R. T., & Boulian, P. V. (1974). Organizational commitment, job satisfaction, and turnover among psychiatric technicians. *Journal of Applied Psychology, 59*, 603-609.

Schein, E. H. (1994). *Organizational and Managerial Culture as a Facilitator or inhibitor of Organizational Learning*. Paper presented at the Society for Organizational Learning, Internet.

Schneider, B. (1985). Organizational behavior. *Annual Review of Psychology, 36*, 573-611.

Sorcher, M., & Meyer, H. (1968). Motivating factory employees. *Personnel*(January - February), 22-28.

Steers, R. M. (1977). Antecedents and outcomes of organisational commitment. *Administrative Science Quarterly*(22), 46-56.

Ticehurst, G. W., & Ross-Smith, A. (1992). Communication satisfaction, commitment, and job satisfaction in Australian organisations. *Australian Journal of Communication, 19*(1), 130-144.

Wallace, J., Hunt, J., & Richards, C. (1996). *The Relationship between Organisational Culture, Organisational Climate and Managerial Values: A Proposed Model*. Paper presented at the ANZAM '96 Diversity & Change, University of Wollongong.

Ward, E. W., & Davis, E. (1995). The effect of benefit satisfaction on organizational commitment. *Compensation & Benefits Management*(summer), 35-40.

Waters, I. K., Roach, D., & Waters, C. W. (1976). Estimate of future tenure, satisfaction and biographical variables as predictors of termination. *Personnel Psychology*(29), 57-60.

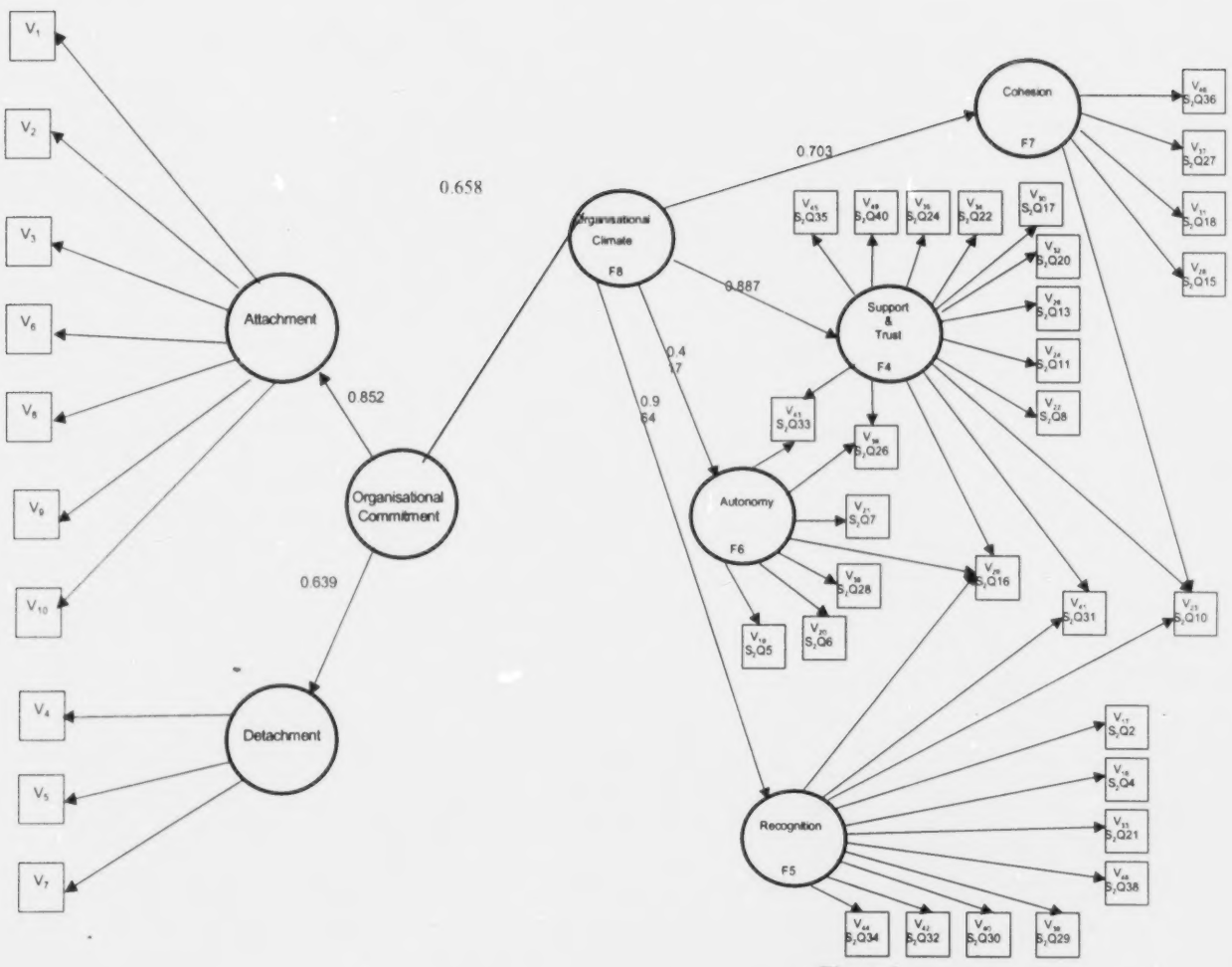

Figure 1.
Relationship Between Organisational Commitment and Organisational Climate.

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Action Learning as a Vehicle for Organizational Culture Change

Susan R. Meyer
MTA NYC Transit

Action learning's focus on concrete problems makes it a potentially powerful vehicle for introducing new norms for open communication, team learning and critical reflection into a structured, pragmatic organization. Preliminary feedback from an ongoing two year action learning program indicates that managers who participated in the program recognize the need to change and may be beginning to adopt these new norms.

Keywords: Action Learning, Organizational Change, Management Development

MTA NYC Transit, like many organizations, is grappling with the need to become increasingly flexible and responsive in a climate of change. Transit is a highly structured, hierarchical, paramilitary organization seeking to improve succession planning and to broaden the pool of managers involved in innovation, problem solving and decision making. The Sr. Vice President for Subways wants to begin to break down organizational norms against open, cross-divisional communication, promote systems thinking and change managerial practices. The central question addressed in this study is: Can Transit use an action learning program to foster this culture change? Three questions related to changing the cultural norms for problem solving emerged:

1. Is there evidence that participants in the Action Learning sets moved from an instrumental to a critically reflective approach to problem solving and decision making?
2. Is there evidence of movement within the organization from closely held decision-making to widespread involvement in problem solving?
3. Is there evidence that program participants became empowered to implement the solutions they proposed?

These questions can not be fully explored in the short term and will be studied over a two year period. As the program continues to unfold, the effectiveness of the General Superintendents' Program in improving problem solving abilities is being evaluated by the organization and the researcher in terms of:

1) number of solutions implemented and
2) effectiveness of solutions as measured by performance statistics on selected subway lines.

The effectiveness of the General Superintendents' Program in fostering culture change is being evaluated by the researcher in terms of evidence of change as measured by:

1) increased involvement of the participants' subordinates in problem solving efforts and
2) evidence of new or improved cross-functional and interdivisional communication.

Background

NYC Transit has approximately 47,000 employees in two operating departments (Buses and Subways) and ten support departments (Human Resources, Legal, etc). Over the past five years, the organization has faced major challenges including moving to increased reliance on fare box revenues rather than government funds, layoffs of operating personnel, increased reliance on computer technology in all phases of the operation, and increased ridership. It is slowly evolving from a rigid, highly structured organization to one with the flexibility needed to function successfully in today's environment

The Department of Subways, in particular, is faced with several unwieldy management dilemmas. It is the largest department within the organization. Within this department, each division is the size of the average private business and has its own personality. Divisions tend to attempt to function autonomously, rarely acknowledging that they are interdependent and all working towards the same goal. Traditionally, managers have been promoted from within the organization, perpetuating a closed "old boy's" network of predominately white, only male, executive managers, many of whom have had a series of different reporting relationships over the years.

Most managers are not college graduates and many have more than 30 years experience, often in only one division within the Department of Subways. As a group, they tend to be suspicious of changes in management style and tend to accomplish goals through reliance on personal relationships. The most senior managers tend to prefer

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unilateral control to shared authority and tend to be suspicious of college graduates, women, many minority groups and anything that questions continuing past practices. Decision-making authority continues to be seen as the purview of only the most senior managers. Communication between senior, middle, and first line management is inconsistent and incomplete.

The Sr. Vice President of Subways is concerned with the professional development of his senior and middle managers. He feels they lack good problem-solving skills and further feels that they are unable to present their ideas forcefully. He recognizes that, if the organization is to remain successful, managers will need to learn how to think and act differently. As Marsick (in Mezirow and Associates, 1990) points out:

> (t)oday, workers at all levels are called upon to think differently and more deeply about themselves, their work, and their relationship to the organization. This is nowhere more evident than in the ranks of managers, whose very survival is threatened by mergers and acquisitions, downsizing, and flattening of the organizational pyramid.

The General Superintendents' Program

In 1998, the Sr. Vice President of the Department of Subways requested training that would involve his senior managers in strategic thinking, improve their problem solving skills and assist them in making effective presentations. An Action Learning program, following the Experiential model (Yorks, ONeil and Marsick, 1999), was designed to address these concerns by involving senior managers in developing proposals for solutions to real organizational problems.

Action Learning was selected as the appropriate vehicle because of the potential for providing a relatively protected environment within which participants could begin to interact differently across organizational barriers. The literature (Marquardt, 1997, Watkins and Marsick, 1996, Yorks, ONeil and Marsick, 1999) showed the effectiveness of action learning in providing a forum for solving difficult concrete organizational problems. Prior experience with Supervisory and Managerial training within Transit had shown that the opportunities to meet and interact with peers across departmental and divisional barriers were rare.

Three problems were posed by the Sr. Vice President to each of the two groups of participants. One primary concern for the organization was that, due to increased ridership, crowded conditions had increased. Pressure from consumer and political groups to alleviate this situation was constant. Overcrowding, then, became the first of three problems to be addressed by the Action Learning sets. The second concrete problem to be addressed was that announcements were often unintelligible, not heard at all or inconsistent. The third problem, less concrete, but with broad organizational implications, was how, in an environment where divisions and units were often operating in a vacuum or at odds with each other, to improve teamwork within the department.

The pilot program utilized a structured problem solving and decision making model. Two groups of fifteen General Superintendents met in six facilitated action learning sets and as a large group over a ten day period. Participants were selected from each of the divisions within the department of Subways. Groups were formed to reflect the widest possible diversity based on job function, gender, ethnicity and age. Each group was assigned one of the three concerns. They researched the current state and ideal future state in order to make specific proposals for improvements.

At the end of the initial training, each group presented proposals first to the Sr. Vice President, then to the President and Executive Vice President. The groups were charged to research and develop their proposals over a two month period, after which specific implementation plans were presented to all the Sr. Vice President's direct reports. For the balance of the year, the six sets were collapsed into three – one for overcrowding, one for announcements and one for teamwork. They continued to work on implementing fifteen specific solutions, with a target of full implementation by December, 1999.

Methodology

A case study approach is being employed to study the impact of action learning on the problem-solving, decision-making and communication processes within the Department of Subways. The researcher was part of the design team for this project and facilitated the two sets working on teamwork. Data collection includes: program evaluations, critical incident reports, interviews with participants, memos/minutes documenting meetings, documentation of solutions implemented, and pre/post comparison of performance indicators including on-time

performance statistics. The data collection will continue through the second year of the program, when another three groups are expected to complete the program. Data will be interpreted in terms of theory related to action learning, culture change, and Senge's (1990) five disciplines.

Two organizational crises have impeded the collection of data about the first year of the program. The group had planned to host the first annual conference in early December, 1999. Conference plans included presenting the proposals this group had developed to all Subways managers and putting in place a feedback loop that would involve these middle managers in the problem solving process. The threat of a strike led to the conference being postponed. Thus, information about how successful the group was in expanding the problem solving network is not yet available.

The General Superintendents were unavailable for interviews during their involvement in strike plans and continue to be unavailable as the organization gears up for the increased demands of providing service for New Year's Eve and preparing for possible Y2K disruptions. Data collection to date has therefore been limited to a review of program documents and of responses to a questionnaire based on Rothwell's(1999) questionnaires for evaluating action learning.

Results from the Action Learning Sets

During the initial phase of the program, participants were able to work together across division lines to research problem causes and generate possible solutions. The initial program resulted in fifteen proposals. They are a mixture of new ideas and an expansion of pilot programs the groups found to already be working well. Proposals addressing overcrowding are:

- Expand the "step aside" (platform markings) pilot program to keep customers on the platform from blocking the doors upon entering and exiting trains
- Introduce new materials to improve visibility and longevity of "step aside" boxes
- Develop a media campaign to educate ridership about "step aside" boxes (publicizing the boxes and the "step aside – speed your ride" slogan)
- Expand "step aside" concept to include markings on train car floors and doors
- Increase the number of platform conductors (used to facilitate customer flow)
- Adjust schedule for extra trains during morning rush (adding "put-in" trains from spur tracks and adjusting turn-around points)
- Increase scheduled maintenance systems in order to decrease potential delays in service
- Expand the use of countdown clocks (to measure time until scheduled departure) to increase awareness of dwell time in stations

Proposals addressing quality and consistency of customer announcements are:

- Purchase wireless radios that will allow Station Agents to communicate freely with others in the system
- Install a mass call system linking Rapid Transit Operation Control Center to Stations Department Service Booths to provide real time information on subway service (routes a single call to many locations)
- Update and expand distribution of "Blue Book" (compilation of standardized announcement formats) to include station and platform personnel as well as conductors

Proposals addressing teamwork are:

- Cross train managers and supervisors across divisions (to increase knowledge of other areas and promote systems thinking)
- Establish partnering committees of General Superintendents across divisions (to encourage joint problem solving efforts, increase open communication and promote systems thinking)
- Implement a crossfunctional restructuring of IND night operations that will physically co-locate General Superintendents (to facilitate open communication, joint problem solving efforts and systems thinking)
- Implement an annual managerial conference and workshop (to involve middle managers in problem solving and promote open communication)

The program can be deemed successful by the first of the organization's criteria. All but two of the proposals have been at least partially implemented. The problems relating to implementing the remaining two, implementing a crossfunctional restructuring of IND night operations that will physically co-locate General Superintendents and expanding the "step aside" concept to include markings on train car floors and doors, demonstrate the strong hold of

the old management paradigm. Selecting a location for the IND office has not moved forward because, even though the change would be in their best interests, none of the three departments involved is willing to contribute suitable space. Despite pressure from the Sr. Vice President, the executive manager responsible for train cars refuses to allow the "step aside" decals to be put in "his" trains.

The program will be evaluated during the next year in terms of the effectiveness of the solutions implemented. Statistics are generated on a daily basis about dwell time in stations and about train delays. These statistics are generated by station, line, date, and time of day. Dwell time data will be compared for the same time periods and equivalent dates (in terms of usage patterns) for stations where step aside boxes are in place. Data will also be compared in terms of causes of delays on lines where train and maintenance schedules have been changed.

Findings

Over the past fifteen years, a number of needs assessments conducted by Transit, including an MTA-wide study by the Wharton School, have indicated that there is a lack of teamwork and interdivisional cooperation within Transit. This is coupled with and related to a perceived lack of leadership ability in Senior and Middle management. Within a closed culture with an emphasis on hiding information, seeking to place blame and operating only in one's own best interest, it is difficult for potential leaders to emerge. Prior to this action learning program, many of the General Superintendents had never met face to face, even though some shared areas of responsibility. Few were familiar with divisions other than their own.

S –Normally, I dont meet too many new people from other departments, let alone work with them and use some of their ideas.

For this population, then, any evidence of open communication, sharing of ideas and information or team effort represents a significant culture shift.

Of the initial group of 30 General Superintendents, by November, 1999, only sixteen remained actively involved. Three more were occasionally active; four had retired; two were promoted. The remaining five simply disappeared. There were varying perceptions about the need for ongoing participation ranging from seeing it as mandated by the Sr. Vice President through seeing this project as important to the future of the organization to viewing it as a waste of time. There was some bitterness expressed about the "dropouts" by those who felt unfairly burdened by the project. One felt that this kind of thinking was "not part of the job."

S –My future with the organization will not depend on this skill.

All participants were sent a questionnaire relating to what was learned as a result of the action learning program. Thirteen participants responded. The four questions about learning, adapted from Rothwell's (1999) questionnaire were:

1. What do you think was the *single most important lesson* that was learned by your team as a direct result of the General Superintendents' Program?
2. What do you think was the *single most important lesson* that you, as an individual, learned by participating in this program?
3. What lessons do you believe the team learned from its experience?
4. What lessons do you believe that you learned from the experience?

Nilson (1999) describes culture as a system of shared meanings, values, and behavioral expectations. It is expected that, over time, the action learning program will result in a shift from valuing secrecy to valuing open communication, from valuing assigning blame to valuing seeking solutions, from protecting turf to acting in the best interests of the organization and a shift in behavioral expectations form passive and reactive to proactive. Although it is too soon to accurately assess any of these culture changes, there is some early evidence of greater cooperation between departments, as evidenced by interdepartmental implementation efforts that include individuals not part of the pilot groups. There are also interdepartmental problem solving groups in place at two levels – the cross training and partnering initiatives. These groups will be tracked over the next year.

There is also evidence of an awareness of the importance of teamwork, but it is too soon to tell whether the Generals will transfer what they learned in working together to how they work with their subordinates. Comments from the participants about increased teamwork include:

L - Solutions can be found or developed by people from other department; or from levels of management as low as G/S's or Supt's.

C - The most important item that was learned is that new ideas from people in different departments open up lines of communication to each other. We had participants from Hydraulics, Track and Car Equipment discussing customer service issues, these issues are not faced by them on a daily basis. It gives us a better perspective on issues.
S –The single most important lesson that was learned by the team in my opinion is that we all are faced with a (single) task and that is to accomplish our goals. In the past, different Departments and even different Divisions within each department operated as if that unit could operate autonomously.

Evidence Of Movement From An Instrumental To A Critically Reflective Approach To Problem Solving And Decision Making

Mezirow (1990) discusses instrumental learning in terms of figuring out how to do something. Instrumental learning, with its reliance primarily on past practices and unexamined organizational knowledge, is the preferred style among Transit managers. As part of the problem solving process, participants in the action learning sets were asked to uncover and examine their assumptions about how things could be done. They were also asked to think about problems from multiple perspectives. They were encouraged to discuss and examine the reasoning behind current practices. Responses to the question about important team learning included evidence of movement away from an instrumental approach:

P – To see problems as opportunities for improvement not just from my perspective but from that of our customers and many other divisions that are affected in completely different ways. No matter how complex an objective might be when tackled systematically, bringing different perspectives to bear, potential actions soon become apparent leaving only the task of determining what the consensus is as to the most desirable, efficient, expedient plan to implement.
S – In my environment, I must act on impulse. Usually there isnt much time to work though a process. I take great pride in going at a task head on and arriving at a solution, and then putting that solution into action. The process of problem solving learned in this session helped me to see that even though the process is slower, it can also be rewarding, once a solution is reached.
C – By getting people together to face tough problems, the ideas and solutions flow more quickly and give us a better way to solve problems. Individuals in different ideas broaden horizons on how problems can be solved, the interaction of ideas (both good and bad) offered us a glimpse into new problem solving ideas.

Evidence Of Movement Within The Organization From Closely Held Decision-Making To Widespread Involvement In Problem Solving

There is insufficient evidence at this time to address this question. So far, there is mixed evidence that the participants are moving in the direction of involving subordinates I decision making. The conference steering committee stated as a goal involving their direct reports in the process, but failed to include a feedback process in their conference design, preferring to devise a process once data was collected during the conference. One positive note is that shortly after the initial training, one participant reported using the problem solving process he had learned to involve his subordinates in solving a problem.

Evidence That Program Participants Became Empowered To Implement The Solutions They Proposed

Early evidence would indicate that progress will be slow in this area. Some projects that met current management goals or that seemed not to be controversial were either actively supported or at least not thwarted. Others, as described above, despite clear support from the Sr. Vice President, were subverted. Participants noted this uneven support:

L – Only at the beginning. Once original presentation was over upper management gave little to no support. Some assignments given to individual General Superintendents required support from the Chief level. Some Chiefs resisted but did not go to (the Sr. Vice President). They just delayed the process.
C –In the beginning there was tremendous support; it waned over time.

W –The team received some support, but in many cases upper management was not aware of the program, and in other cases, they offered only "lip service".
A –Initially, yes, but not throughout the program.

Discussion

By the end of December, 1999, data collection has not proceeded sufficiently to present any conclusions or recommendations. The data available, however, is sufficiently intriguing to warrant further study of this group. The conference will be rescheduled for early 2000 and will provide data about involving middle managers in problem solving efforts. If involvement is extended to that level, it will represent a major shift in the organization.

Over the next three months, all remaining program participants will also be interviewed and asked to provide critical incident data relating to opportunities to use problem solving skills, to cooperate across divisions and to involve subordinates in problem solving activities.

References

Marquardt, M. (1997)Action learning. Alexandria, VA: ASTD

Marsick, V. J. (1990) Action learning and reflection in the workplace. In Mezirow, J. and Associates *Fostering critical reflection in adulthood* San Francisco: Jossey-Bass

Mezirow, J. (1990) How critical reflection triggers transformative learning. In Mezirow, J. and Associates *Fostering critical reflection in adulthood* San Francisco: Jossey-Bass

Rothwell, W. J. (1999) *The action learning guidebook.* San Francisco: Jossey-Bass

Senge, P. (1990) The fifth discipline: the art and practice of the learning organization. New York: Doubleday

Watkins, K. E. and Marsick, V. J. (1996) In action: creating the learning organization. Alexandria, VA: ASTD

Yorks, L. ONeil, J. & Marsick, V. J. (1999) Action learning: Successful strategies for individual, team, and organizational development Baton Rouge, LA: Academy of Human Resource Development